

Jefferson, Jefferson county: a violent storm from the west passed over this place at 2.45 a. m., on the 23d. Residences, barns, and other out-buildings throughout the storm's path were more or less damaged. The damage to property at Jefferson is estimated at \$50,000.

Sussex, Waukesha county: a severe thunder storm, accompanied by hail, passed north of this station at 1.30 a. m. of the 23d. Great damage was done to the grain crops.

La Crosse: a storm of unusual violence prevailed at this place on the afternoon of the 25th. It began at 3.55 p. m., a wind velocity of sixty-three miles per hour being recorded; a greater velocity was attained later, but as the anemometer became unserviceable, the exact velocity is not known. The observer estimates the maximum wind velocity at seventy-five miles per hour. The high wind caused considerable damage in this city and vicinity; in some localities the crops were seriously injured. At a point one mile north of La Crosse, hail fell in large quantities. The storm approached La Crosse from the northwest and passed off to the southeast, its track being narrow.

NAVIGATION.

STAGE OF WATER IN RIVERS.

In the following table are shown the danger points at the various river stations, the highest and lowest stages of July, 1884, with the dates of occurrence and the monthly ranges:

Heights of rivers above low-water mark, July, 1884.

Stations.	Danger-point on gauge.	Highest water.		Lowest water.		Monthly range.
		Date.	Height.	Date.	Height.	
<i>Red River:</i>	<i>Ft. In.</i>		<i>Ft. In.</i>		<i>Ft. In.</i>	<i>Ft. In.</i>
Shreveport, Louisiana.....	29 9	1	18 2	31	7 0	11 2
<i>Arkansas:</i>						
Little Rock, Arkansas.....	33 0	4	10 6	26	6 3	4 3
Fort Smith, Arkansas.....		1	2 8	19, 23	1 4	4 0
<i>Missouri:</i>						
Yankton, Dakota.....	20 0	4, 5	19 11	25	16 10	3 1
Omaha, Nebraska.....	16 0	4	13 3	25	9 0	4 3
Leavenworth, Kansas.....	21 0	5, 6	17 3	28	13 5	3 10
<i>Mississippi:</i>						
Saint Paul, Minnesota.....	14 6	1	4 2	23	2 4	1 10
La Crosse, Wisconsin.....	18 0	1	4 2	25	1 9	2 8
Dubuque, Iowa.....	21 10	1	7 8	22	4 3	3 5
Davenport, Iowa.....	15 0	1	5 10	23	2 10	3 0
Keokuk, Iowa.....	14 6	1	0 4	25	3 4	3 0
Saint Louis, Missouri.....	30 0	17	20 10	25	14 11	15 11
Cairo, Illinois.....	40 0	10	23 2	28	15 6	7 8
Memphis, Tennessee.....	34 0	1	17 9	30	10 10	6 11
Vicksburg, Mississippi.....	41 0	1	29 7	31	19 4	10 3
New Orleans, Louisiana.....	-2 6	1	4 6	31	5 4	3 10
<i>Ohio:</i>						
Pittsburg, Pennsylvania.....	20 0	30	8 4	25	0 4	8 0
Cincinnati, Ohio.....	50 0	1	15 5	25, 27	4 10	10 7
Louisville, Kentucky.....	24 0	2, 3	7 0	25, 27, 28	3 2	3 10
<i>Cumberland:</i>						
Nashville, Tennessee.....	42 0	1	8 2	27, 28	1 10	6 4
<i>Tennessee:</i>						
Chattanooga, Tennessee.....	33 0	1	8 4	25	2 7	5 9
<i>Monongahela:</i>						
Pittsburg, Pennsylvania.....	29 0	30	8 4	26	0 4	8 0
<i>Savannah:</i>						
Augusta, Georgia.....		6	15 1	27	6 0	10 1
<i>Willamette:</i>						
Portland, Oregon.....		1	17 7	31	7 8	9 11
<i>Sacramento:</i>						
Red Bluff, California.....		1	2 5	29, 30, 31	1 2	1 3
Sacramento, California.....		1	19 4	31	11 6	7 10
<i>Mobile:</i>						
Mobile, Alabama.....		23, 27	16 11	4, 5, 17	15 0	1 11
<i>Colorado:</i>						
Yuma, Arizona.....		13, 14	27 6	30, 31	23 0	7 6

* Below bench mark. † Below high-water mark of 1874 and 1883.

All stations on the Mississippi river, with the exception of Saint Louis, Missouri, and Cairo, Illinois, report the highest stage of water on the 1st; at Cairo and stations northward the lowest water was observed from the 22d to 25th, and south of Cairo from the 28th to 31st.

The Missouri was highest on the 4th and 5th; it was lowest at Yankton, Dakota, and Omaha, Nebraska, on the 26th, and at Leavenworth, Kansas, on the 28th. At Yankton, it was within one inch of the danger-line when at its highest stage, on the 4th and 5th.

The Ohio river remained low during the month. At Portsmouth, Ohio, navigation was suspended on the 25th, on ac-

count of low water; on the 28th there were but three feet and ten inches of water in the channel. At Pittsburg, Pennsylvania, the river reached a height of eight feet and four inches above low water, on the 30th, permitting most of the coal barges, which had been detained for the past month, to proceed down the river.

The observer at Nashville, Tennessee, reports that navigation in the Cumberland river was suspended on account of low water, on the 16th.

FLOODS.

Yuma, Arizona: portions of the Southern Pacific railroad bridge over the Colorado river were washed away on the 1st and 3d.

Fayetteville, Washington county, Arkansas: reports from Drake's creek, Madison county, state that a "cloud-burst," extending over a radius of twenty miles, occurred on the morning of the 6th. White river, and Brush, Drake's, and Richland creeks overflowed, causing much damage. Six persons were drowned by the overflow of Richland creek; several houses at Huntsville were swept away and the crops in many places were ruined.

Chesterfield, Chesterfield county, South Carolina: a very heavy fall of rain occurred during the night of the 10-11th, which caused the streams in this vicinity to overflow. Numerous mills and bridges were washed away and other damage caused. At Cheraw, the rainfall is reported to have been the heaviest known for several years, and mills and bridges in that locality were washed away. The railroad between Cheraw and Wadesborough was badly damaged, causing delay of trains.

Baltimore, Maryland, a very heavy rainfall occurred on the afternoon of the 11th, 3.75 inches water having fallen in less than two hours. A large amount of damage was caused by the flooding of the lower floors and cellars of buildings; in some portions of the western part of the city the water covered the streets to a depth of five feet.

Lexington, La Fayette county, Missouri: the heavy rains on the 24th, caused serious washouts along the line of the Missouri Pacific railroad. At Concordia, Davis creek overflowed and caused an extensive break in the road at that point.

Columbus, Lowndes county, Mississippi: more than four inches of rain fell at this place on the 28th, causing damage to the growing crops in bottom lands.

Piedmont, West Virginia: rain fell continuously from 10 a. m. of the 23th, until 5 a. m. of the 29th, causing one of the most destructive freshets that has ever occurred in this vicinity. A "cloud-burst" is reported to have occurred at the head of Castle run, near Lonaconing, Allegheny county, Maryland, partially submerging that town. George's creek, a small stream, was much swollen and horses and cattle pasturing along its banks were drowned. At Barton, Allegheny county, twenty houses were washed away and three persons were drowned. At Western Port, Allegheny county, where George's creek empties into the Potomac river, a part of the town was flooded and three houses were washed away. The Cumberland and Pennsylvania railroad was badly damaged.

HIGH TIDES.

Eastport, Maine, 21st.

Scott's Hill, North Carolina, 21st, 22d.

New River Inlet, North Carolina, 22d, 23d.

LOW TIDES.

Eastport, Maine, 9th.

Indianola, Texas, 1st, 2d, 4th, 5th, 7th to 11th, 26th to 31st.

TEMPERATURE OF WATER.

The temperature of water as observed in rivers and harbors during July, 1884, with the average depth at which the observations were made and the mean temperature of the air at the several stations, are shown in the following table. The highest observed water temperatures are: 96°.1 at Indianola, Texas; 89°.7 at Key West, Florida; 88°.7 at Galveston, Texas; 88°.5 at Cedar Keys, Florida; and 88°.2 at Augusta,